

# Motoman GP8 Industrial Robot

The Motoman GP8, 6-axis robotic arm, is an advanced material handling robot that offers high speeds, an 8 kg (17.64 lbs) payload, and 727 mm (28.62") reach. This robot is designed to provide easy set-up, operation, and maintenance with only a single cable needed to connect the manipulator and controller.

The GP8 offers superior performance in part applications such as assembly, dispensing, packaging, material handling, and machine tending.

The robot has faster axes speeds, better reduction of acceleration/deceleration times for all robot positions than all robots in its class.

The compact and slim design of the GP8 has an expansive work envelope and a design that allows close proximity placement of robots. The robot arm has an easy-to-clean surface for use in harsh environments and an IP67 wash down rating. The lightweight, 32kg (71 lb) robot, supports a variety of mounting options including floor, ceiling, and wall.

The GP8 is paired with the advanced YRC1000micro controller, the smallest robot controller in its class, that can be installed in either a vertical or horizontal position, as well as within a 19-inch rack. The YRC1000micro sports functions & performance optimized for transfer and assembly applications. The YRC1000micro offers easy connectivity to peripherals, high speed and high precision motion control, and advanced safety functions..



## Features

- Compact, high speed, powerful and economical
- Industry 4.0 integration and functionality
- 8 kg / 17.6 lb payloads
- Slim robot body requires minimum installation space
- Impressive reach enables robot to operate in wider work areas
- Slim, straight, and symmetrical arm design minimizes interference with peripheral devices even in small spaces
- Environmentally friendly - IP67 standard protection class
- Floor-, wall- or ceiling-mounted options
- Easy set-up - Only one cable required

## Applications Examples

- Machine Tending (Milling/Turning/Laser Engraver)
- Assembly and/or Quality Control
- Parts Handling (Order Picking, Parts Transfer, Storage Applications)



## Robot Specifications

**Structure:** 6 Axis articulated arm

Axis Movement	Range	Maximum Speed	Allowable Moment	Allowable Moment of Inertia
S-Axis (Swivel Base)	±170°	455°/s		
L-Axis (Lower Arm)	+150°/-65°	385°/s		
U-Axis: (Upper Arm)	+255°/-113°	520°/s		
R-Axis: (Arm Roll)	±190°	550°/s	17 N • m	0.5 kg • m2
B-Axis: (Wrist Bend)	±136°	550°/s	17 N • m	0.5 kg • m2
T-Axis: (Tool Flange)	±360°	1000°/s	10 N • m	0.2 kg • m2

**Horizontal Reach:** 727 mm (28.6")

**Vertical Reach:** 1312 mm (51.7")

**Repeatability:** ±0.02 mm (±0.0008")

**Weight:** 32 kg (70.6 lbs)

**Power Consumption:** 1 kVA

**Payload:** 8 kg (17.6 lbs)

# Industry 4.0 for Education

## MOTOMAN GP8 Industrial Robot

### Standard Programming Pendant

- Dimensions:** 152 (W) x 299 (H) x 53 (D) mm  
6.0" (W) x 11.8" (H) x 2.1" (D)
- Weight:** 0.73 kg / 1.61 lbs
- Display:** 5.7-inch color LCD, touch panel 640 x 480 pixels
- IEC Protection Class:** IP54
- Cable Length:** Standard: 8 m, max: 20 m (optional).



### Smart Programming Pendant

#### Capacitive touchscreen smart device:

- 10.1" WXGA TFT Display
- 1280 x 800 pixels
- LED back light touch panel

**Dimensions:** 215 (W) x 283 (H) x 68.5 (D) mm  
8.5" (W) x 11.1" (H) x 2.7" (D)

**Weight:** 1.12 kg / 2.5 lbs



### Yaskawa Certification

Students who complete the MotoMan Robotics curriculum are eligible to become Certified as a MotoMan Operators and/or Programmers. At the completion of each course, the course concludes with a practical exam which the student must pass before taking the Certification exam.

Candidates that successfully complete the practical exam are then eligible to take the final certification exam to be certified and receive a certificate of completion



### YRC1000micro Controller Specifications

- Optimized acceleration/ deceleration control improves robot cycle time up to 10%
- High path accuracy control enables increased path precision
- Single controller-to-robot cable for easy setup and improved cable reliability
- Easily connects to peripheral devices
- Faster ladder scanning time and fast I/O speed for little to no communication lag for advanced system devices
- Built-in preventative maintenance tools to prolong system life
- 3D Robot simulation on pendant to confirm programmed coordinates
- Functional Safety Unit already integrated.

**Dimensions:** 425 (W) x 125 (H) x 280 (D) mm  
16.7" (W) x 4.9" (H) x 11.0" (D)

**Weight:** 10.5kg / 23.2 lbs

**Ambient Temperature:** 0°C to +40°C (operation)  
-10°C to +60°C (storage)

**Type of Control:** Software servo control

**Communications:** 1 (10BASE-T/100BASE-TX)

**Digital I/Os:** Specialized signals: 7 inputs and 1 output  
General signals: 8 inputs and 8 outputs  
(8 transistor outputs)

**IEC Protection Class:** IP20

**Programming Capacity:** JOB: 200,000 steps, 10,000 instructions  
CIO ladder: 1,500 steps max.

**Expansion Slots:** PCI express: 2 slots

**Positioning System** Serial communications (absolute encoder)

**Power Requirements** Single-phase 200/230 VAC (+10% to -15%),  
50/60 Hz (±2%)

**Safety Features:** Integrate FSU (Functional Safety Unit) for position monitoring (32 zones), speed limiting, tool monitoring, graphic pendant setup.



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